

# AUTHORISATION OF THE NATIONAL ELECTRICITY CODE

A SUBMISSION TO THE ACCC BY THE INDUSTRY  
COMMISSION

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### *Forming the Productivity Commission*

*The Industry Commission, the former Bureau of Industry Economics and the Economic Planning Advisory Commission have amalgamated on an administrative basis to prepare for the formation of the Productivity Commission. Legislation formally establishing the new Commission is before Parliament.*

The National Electricity Code (the Code) has been developed by the National Grid Management Council (NGMC) following a decision by Heads of Government in February 1994 that the proposed national electricity market (NEM) be regulated by way of a code of conduct. The NGMC has submitted the Code to the Australian Competition and Consumer Commission (ACCC) for authorisation because the provisions of the Code will require market participants to act in a manner which may be in breach of the *Trade Practices Act* (see Box 1).

This submission addresses three of the issues raised in the ACCC's comments and issues arising paper (see Box 2):

- the efficacy of the proposal to operate a gross market pool;
- the disclosure of market operation information; and
- a lack of clarity in the division of regulatory responsibilities.

Some of these issues have been raised in submissions by others because of their concern about the level of competition in the electricity generation sector. However, the Industry Commission contends that fundamental concerns about ineffective competition can be addressed more directly by other means, such as further structural reform. This is not to deny that the Code itself also has a role to play in facilitating the evolution of effective competition.

## **Role of the Code and market power in generation**

The Code is intended to facilitate the establishment of the national electricity market (NEM). The provisions of the Code — system security, access, market rules, the pricing of network services and dispute resolution — are designed to regulate, in a light-handed fashion, the operations of the market. Central to the ACCC's authorisation process is an assessment of whether any of the Code's provisions are likely to *lessen* competition and, if so, whether such provisions have offsetting public benefits.

All of the benefits from establishing a competitive market for electricity will only be realised if the structural conditions for competition in the generation and retailing of electricity have already been established. The Code itself is not intended to address, or compensate for, structural problems that bestow market power on generators or other participants.

One concern expressed in submissions to the ACCC is that concentration within the generation sector in some regions may result in the abuse of market power, diminishing the Code's efficacy in facilitating a fully competitive NEM. The Industry Commission's view is that, if this is the case, the problem is most appropriately addressed directly through structural change (for example, increasing the number of providers of contestable services by splitting up existing public corporations) and regulation rather than through amending the

Code. Altering the Code to address this issue may not be effective and may reduce market transparency.

## **Gross pooling arrangements**

The Code establishes linked regional spot markets for electricity. Under the proposed code all electricity will be traded through linked regional pools — a *gross pool* trading system. Some submissions to the ACCC have proposed that the gross pool be replaced with a *net pool* trading system. In a net pool, bilateral contracts for the sale of electricity could be struck directly between suppliers and customers. Electricity subject to these contracts would not be traded through the pool, effectively bypassing the pooling system. For a brief description of the operation of pools see Box 3.

The Industry Commission supports a gross pooling system on efficiency grounds. First, a gross pool facilitates pricing that incorporates all the costs of a shared network system. In contrast, bilateral contracts written directly between generators and customers will make the efficient recovery of fixed costs in a net pool administratively more difficult to achieve. For example, ancillary service costs will have to be recovered from each individual contract.

Second, net pools have been found to advantage incumbent, larger and more experienced participants, thus increasing barriers to entry and discouraging further competition. It has been argued that established incumbents favour net pooling arrangements because they suppress open market prices through confidential contracting (Newbery, 1995). On the other hand, a gross pool is consistent with competitive outcomes because it promotes a high degree of transparency.

Finally, a net pool, at this stage in the development of the new market structures, may not lead to productive efficiency in generation — reserve capacity may be under or over provided and generation plants may be less likely to be dispatched in ascending cost order.

Advocates of a net pool claim that it would permit more flexible contracting arrangements. However, the proposed gross pool arrangements would not impose a barrier to efficient contracts that meet the needs of both purchasers and providers.

Others see trading outside the pool as a means of exerting countervailing market power to oppose concentrated supply. However, the exercise of market power on the part of purchasers may not produce efficient or equitable outcomes.

## Box 1 The National Electricity Code and ACCC authorisation

The National Electricity Code (the Code) has been developed by the National Grid Management Council (NGMC) following a decision by Heads of Government in February 1994 that the proposed national electricity market (NEM) be regulated by way of a code of conduct.

The Code provides a regime of 'light-handed' regulation with the intention of achieving the objectives of the NEM, which are:

- a competitive market with customers free to choose which supplier they will trade with;
- access to the interconnected transmission and distribution network; and
- non-discriminatory treatment of incumbent and potential market participants, of differing energy sources and technologies, and of intrastate and interstate trading of electricity.

The provisions of the Code establish:

- the responsibilities of all Code Participants;
- a set of market rules governing market operations, system security, network access and the pricing of network services;
- a framework for dispute resolution;
- sanctions in cases of breaches of the Code; and
- processes for changing the Code.

The National Electricity Market Management Company Limited, NEMMCO, is to be the body corporate responsible for operating and administering the NEM in accordance with the Code.

The Code itself is to be supervised, administered and enforced by NECA, the National Electricity Code Administrator.

The NGMC has submitted the Code to the Australian Competition and Consumer Council (ACCC) for authorisation because the provisions of the Code will require market participants to act in a manner which may be in breach of the *Trade Practices Act* (TPA). The ACCC will authorise the Code if it is satisfied that the proposed arrangements for the NEM, as detailed in the Code, are likely to result in a net benefit to the public.

The NGMC has also submitted those sections of the Code dealing with access to electricity transmission and distribution infrastructure for consideration by the ACCC. If the ACCC accepts the access undertakings established in the Code, the relevant facility services are no longer subject to declaration under Part IIIA of the TPA. Part IIIA creates a legislative right for third parties to obtain non-discriminatory access on reasonable commercial terms to facilities with natural monopoly characteristics (such as electricity grids).

## Box 2 The ACCC comments and issues papers

The Australian Competition and Consumer Council (ACCC) released an issues paper in March 1996 calling for submissions on the competition, access and public benefit implications of the (draft) Code. A second paper, released in July 1996 sets out the ACCC's preliminary analysis of issues that have emerged from its public consultation. Issues identified include:

- Code complexity as an information barrier disadvantaging smaller participants;
- the appropriateness of corporate governance arrangements for NECA and NEMMCO;
- NEMMCO's monopoly over various market functions and the principles it is to follow in setting pool fees;
- the efficacy of the proposal to operate a gross pool market *vis-a-vis* a trading system based on bilateral contracts and a net pool;
- the affect of prudential requirements on the level of contestability in the NEM;
- the disclosure of market operation and Projected Assessment of System Adequacy information;
- the efficacy of the proposed price cap and price floor arrangements;
- the efficacy of the proposed transmission pricing and regulatory methodology;
- a lack of clarity in the division of responsibility for the regulation of distribution networks; and
- representation of interested parties (network providers, those seeking access and the public) in the network augmentation process.

The structure of the electricity supply industry and the conditions of entry to the NEM are outside of the proposed Code — they are predominantly the responsibility of State and Territory governments. However, they will have a strong bearing on the level of public benefit which will result from the implementation of the Code.

Submissions to the ACCC raise the issue of concentration in the generation sector in some regions and its possible effect on the efficacy of the NEM.

“These criticisms are founded on the view that the supply side oligopoly market structure will reduce substantially the effectiveness of competition in the NEM with the resulting likelihood of tacit collusion, gaming and the exercise of market power in constrained regional markets” ACCC p 16.

Further the ACCC notes that:

“... (the) possession of market power and the potential for its misuse will be important determinants of whether or not the NEM rules will be sufficient to facilitate competitive behaviour and efficient outcomes in the NEM” p 3.

### Box 3. Electricity Pools

The central market mechanism in the NEM is the spot market or pool. The need for an organised central pool arises because electricity supply and demand must be balanced minute to minute to ensure voltage and frequency stability and because some plant is inflexible and there must be a system whereby the availability of plant can be signalled to a central dispatcher.

#### *Proposed Gross Pool*

All generators over 30 MW will have to participate in this market and all electricity volumes will be bought and sold through this market. NEMMCO will dispatch generators and loads according to bids made by suppliers. Offers to supply electricity or reduce demand will be submitted for a whole day. NEMMCO will then match supply and demand according to the price and plant availability. The spot price is determined by total supply and demand during each half hour.

The spot market is to be augmented by a short-term forward market, to be operated by NEMMCO. Suppliers and users also have the option of entering into bilateral hedging arrangements independent of the pool. These financial contracts are referenced to the spot price and are used to manage price risk in the pool.

#### *Net Pools*

Although no specific net pooling proposal has been presented, it is possible that bilateral contracts for the sale of electricity could be struck directly between suppliers and customers. These contracts could be used by NEMMCO as a means of scheduling the dispatch of generation units. Plant required to meet bilateral contracts would have preference for dispatch over plant bidding directly into the pool.

The price of electricity traded by contract is determined independently of the pool. The spot price in a net pool is determined by any residual uncontracted supply and demand.

Any substantive change to the pooling mechanism will further delay the establishment of a national energy market — thus postponing the benefits of this important reform to users. In the Commission's view, the public benefits of a net pool have not been sufficiently established to warrant such a delay. An efficient energy sector is central to the performance of the Australian economy. The Commission favours the authorisation of the Code as quickly as possible so that the community can begin to reap the benefits of a national energy market.

That said, there will be opportunities to change the pooling mechanisms later when the market matures. Clearly, it is important that the compulsory pooling mechanism does not act as a barrier to change in the longer term, that it does not stifle dynamic efficiencies and that the monopoly provider (NEMMCO) is efficiently providing services of the required quality.

## Disclosure of information

The proposed disclosure of generator bid information and projected assessment of system adequacy (PASA) data under the Code is raised in the ACCC's paper as an issue warranting further discussion.

### *Generator bid information*

The Code proposes that detailed bidding information be published each day by the market management company, NEMMCO. The ACCC's issue paper raises the possibility that the immediate availability of this data may increase the likelihood of tacit collusion. However, before amendments designed to reduce this level of transparency are contemplated, their effectiveness should first be established. If they are effective, their benefits should then be weighed against the associated loss of market transparency and against any adverse efficiency consequences.

The chief benefit claimed for the provision of bid data under the Code is that it facilitates the management of risk by both producers and users. Although alternative means of managing risk are available — for example, co-insurance schemes — these alternatives are costly. Market transparency permits participants, potential participants and observers to be assured that the market is operating efficiently and equitably.

Modelling by the Industry Commission (1996) indicates that, in a concentrated market, generators are likely to have market power acting independently. When there is a high degree of market power, the additional returns from collusive behaviour are relatively low. Although the opportunity to collude may be higher when supply is concentrated, the existence of unilateral market power significantly reduces the incentive for collusion. In addition, collusive behaviour may be difficult to sustain over time. It is market power, rather than the opportunities for collusion, that is more likely to affect market outcomes. See Box 4 for a brief discussion of modelling the generation sector.

*Prima facie* the availability of bid data may increase the likelihood of tacit collusion, but it is the exercise of independent market power, rather than collusion, which is more likely. When the generation sector is concentrated, generators are likely to be able to increase prices above the competitive level, even in the absence of collusive behaviour.

The Commission's assessment is that bid information has little value when supply is relatively highly concentrated, as is the case in some regions in Australia. Until it can be demonstrated that the costs of information disclosure outweigh the benefits, the Industry Commission supports the disclosure of bid information.



#### Box 4. Modelling Market Power in Generation

Several studies of electricity markets in Australia and England and Wales have been undertaken in recent years (for example, Industry Commission, 1995, 1996 and Green and Newbery, 1992). Although these studies adopt different techniques, the main conclusions are the same — concentration of control over generation capacity and the system supply and demand balance are the most significant factors influencing the conduct of suppliers in the electricity market.

The most recent Industry Commission study (1996) examined non-cooperative spot market equilibria in a single-bid game. The treatment of the market as a single-bid game, despite repeated interactions between suppliers, is common to many simulation studies of the electricity market. The assumption that behaviour is non-cooperative results in conservative estimates of prices, profits and welfare losses, relative to collusive outcomes. Hence, the modelling underestimates the degree of market power of suppliers.

Despite this conservative assumption, simulation studies have consistently shown that price-cost margins can be very high in concentrated markets for electricity in the absence of any collusion.

Although it has been claimed that high prices are evidence of collusion in the England and Wales market, a closer examination of these claims suggests that collusion is, at best, only one hypothesis (Helm and Powell, 1992). Hashimoto *et al* (1996) take this line further, stating that any inference that such markets are collusive is unjustified, even facile, because it is possible for generators to meet quantitative antitrust tests, adhere to laws and regulations prohibiting collusion and earn above normal returns simply by pursuing non-cooperative profit maximising behaviour.

The existence of market power is a legitimate concern. However, attempts to reduce market power through minimising the opportunities for collusion are misplaced when the principal drivers of supply side behaviour are the concentration of control over generation capacity and the system supply and demand balance.

In the Industry Commission's view, it is necessary to establish that market power exists within or between regions before taking any remedial action and that any action should address the causes of the problem rather than the symptoms.

#### *PASA information disclosure*

Under the proposed Code, projected assessment of system adequacy (PASA) information will be released in the short term (every 7 days for the week ahead), medium term (every 12 weeks ahead) and long term (every 24 months ahead). Short-term PASA information include items of direct relevance to

system adequacy and security, such as forecasts of peak demand and available generation capacities.

The Industry Commission supports the disclosure of PASA information as proposed under the Code. Increased market transparency promotes efficiency by ensuring that both sellers and buyers have access to the same information.

Experience in the England and Wales market illustrates the potential for anti-competitive behaviour in the absence of system adequacy information (OFFER, 1992). Suppliers were able to raise spot prices by increasing the bid prices of some plant at times when system constraints made it likely that this plant would have to be dispatched. This prompted the UK regulator to make more system data publicly available. Although the provision of information would not of itself prevent a supplier from this form of strategic bidding, other participants could observe the behaviour.

The ACCC's issues paper suggests that the Code could incorporate provisions to discourage or avoid abuse of the PASA process. The Industry Commission supports such provisions in principle. However, it is difficult to anticipate all types of strategic behaviour prior to the event. Moreover, it is difficult to establish whether provisions directed at preventing abuses will result in a net public benefit.

The National Grid Company in the England and Wales market introduced a system of reporting poor behaviour by suppliers. This practice works to discourage strategic bidding and has the advantage of reducing the potential monitoring costs to the grid company. Consideration could be given to a similar system being adopted by NEMMCO.

## **Access to distribution networks**

The Code proposes a regulatory structure under which the ACCC would be responsible for authorising access undertakings to distribution networks and State and Territory regulators in jurisdictions participating in the NEM would be responsible for distribution network pricing. The ACCC's issue paper posits that, because of the close linkages between network pricing and access, the proposed regulatory structure may not be optimal. The ACCC points out the potential for inconsistencies to develop between jurisdictions and the possibility that this may create barriers to entry or introduce local distortions into usage and investment decisions.

The Industry Commission shares these concerns. Furthermore, the continued existence of vertically integrated distributors and retailers increases the need for a transparent regulatory regime. Unlike transmission network service providers, distribution network service providers compete, via commercially independent (ring-fenced) retail arms, in the downstream retail market. The integration of network and retail activities within one business creates both the

opportunity and the incentive for anti-competitive behaviour, as integrated enterprises, to use the network side of their businesses to advantage their retailing activities.

In principle, the Industry Commission believes that the full separation of distribution and retail is more consistent with the national competition principle of separating potentially competitive functions from natural monopoly elements than is ring-fencing. However, no jurisdiction has undertaken the full functional separation of distribution from retail and some market participants have argued that such a division is impractical. (For a more detailed discussion of these arguments, see Industry Commission, 1996).

Nonetheless, the Industry Commission has argued that,

... the retention of retail with network activities will ... require significant regulatory effort on the part of the proposed regulator. It will be important that regulation of distribution access be rigorous and that ring-fencing of retail and distribution have a high degree of transparency ... (IC, 1996, p115).

There is a clear link between access regulation and the behaviour of distribution network service providers in downstream retail markets.

Given the complexity of the regulators' task, the Industry Commission supports the ACCC's suggestions that information on distribution network prices be made publicly available and that formal communications between regulators in relevant jurisdictions be established to agree on the information requirements.

The Industry Commission's view is that, on balance, this information should be published. Sufficient information on the operation of the market should be made publicly available such that each regulator could, if necessary, undertake its deliberations independently. This will ensure that regulatory processes are transparent and regulators are accountable.

The publication of information will require judgements on commercial sensitivities. However, given the natural monopoly characteristics of distribution networks, competition in the retail sector should not absolve integrated businesses from public scrutiny of their distribution arm on grounds of competitive neutrality. On the contrary, competitive neutrality is likely to be violated by a failure to ensure that ring-fencing is effective.

Public disclosure of operational information of a distribution business, as proposed, will not prejudice the operations of a competitive retail arm. In addition, it allows for some variation in regulatory practices between jurisdictions while promoting the adoption of best practices.

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